AGRICULTURE EQUIPEEMENT'S RENTAL SYSTEM

Mr. Chetan Ner*1, Mr. Vishal Hire*2, Ms. Mansi Salunkhe*3, Ms. Sayali Patil*4, Mrs. Bhawana Ahire*5

*1,2,3,4,5Maratha Vidya Prsarak Samaj's, Karmaveer Baburao Ganpatrao Thakare College Of Engineering, Udoji Maratha Boarding Campus, Gangapur Road, Nashik, Maharashtra, India.

DOI: https://www.doi.org/10.56726/IRJMET34591

ABSTRACT

Agriculture forms the backbone of Indian economy and there is always a need of supporting and improving it . As a part of which some of Indian NGO’s are with an initiative of supporting the farmers by facilitating them with the modern agricultural equipement’s on rental basis .Modern agricultural equipment's make farmers work more efficient and easy . As a part of which there are some organizations that are set up to help those farmers who are in need of such equipment's ,where the organization owns the equipment's and rent those on request of farmers at liable amounts . At present, farmers need to travel to a place to borrow all the essential needs, which is a tiresome and not a cost effective work . So a smart digital farming is listed as the highest ranking technology opportunity in the latest Global Opportunity report in terms of its expected positive impact on society . This paper is on digitizing the process of renting the agricultural equipments by the farmers . We aim at developing an application that farmers can use to get their equipments on rent and also check the availability and renting . We also allow them to book the equipments in advance . It also helps us to get the track of equipments that are on rent . We also aim at developing analytic for the state heads to make better availability of equipments and to keep track of the equipments as well, which could help in providing better support for farmers.

Keywords: Agriculture, Farmer, Equipment’s, Application, Rental.

I. INTRODUCTION

Modern agricultural equipment's make farmers work more efficient and easy . As a part of which there are some organizations that are set up to help those farmers who are in need of such equipment’s, where the organization owns the equipment’s and rent those on request of farmers at liable amounts . At present, farmers need to travel to a place to borrow all the essential needs, which is a tiresome and not a cost effective work . So a smart digital farming is listed as the highest ranking technology opportunity in the latest Global Opportunity report in terms of its expected positive impact on society . Agriculture yet forms the backbone of Indian economy and there is always a need of supporting and improving it . As a part of which some of Indian NGO’s are with an initiative of supporting the farmers by facilitating them with the modern agricultural equipment's on rental basis . We aim at developing an application that farmers can use to get their equipments on rent and also check the availability and renting.

The weak purchasing power of agricultural machinery is China’s current condition, and the cost of large agricultural machinery is very high. Due to the small size of farmland and strong seasonal characteristics of crops in China, it is difficult for farmers who have bought agricultural machinery in a short time to make profits. Agricultural machinery idles for a long time, which is a waste of resources. In addition, the function of Chinese agricultural machinery is singular, and many different types of agricultural machinery are needed in the production of a crop. The role of a single type of agricultural machinery is extremely limited, so farmers are extremely unwise to buy large agricultural machinery. Agricultural machinery rental is a new service form that can lighten the burden of buying agricultural machinery. This service improves the utilization rate of agricultural machinery and promotes the development of the agricultural economy. However, most agricultural machinery rental companies are still in the stage of immediate deployment. Staff only considers the time sequence when the agricultural.

II. METHODOLOGY

Software Development Methodology

This application comprises mainly of two parts:

www.irjmets.com @International Research Journal of Modernization in Engineering, Technology and Science [2234]
Front End: This part is responsible for interacting or conveying among the students and faculty of the same department.

Back End: This part is mainly responsible for the storage purpose. Oracle database is used for uploading or downloading data into or from back end using queries from front end respectively.

Detailed overview of Front End The front end is based on Java platform where farmers can book the required machinery can be booked for a certain period of time.

III. SOFTWARE REQUIREMENT SPECIFICATION

We are going to make an Android application in which fire base database (real time data base) will be used. For that, the operating system is Windows 10 and Android studio will be required in it. Any local network will work. Interconnections should be firebase connected The protocol will be IP and HTTPS

3.1.1 Product Functions

Agriculture is a labor intensive job and that needs for deployment of machines in the farm. These machines can carry out farming operations much faster than the human labor. But these farming equipment and machinery are often very expensive & not every farmer is able to purchase it.

3.1.2 User Characteristics

Our design vision is such that the system should do the majority of the work for the user. The user just needs to interact with the system to state their needs.

3.1.3 Specific Constraints

With the increasing demand for farming machinery, it can be extremely difficult for equipment rental companies to keep up with mounting needs. What the industry requires is a custom farm machinery rental platform that ensures optimal management of agricultural equipment, booking requests, customers, downtime needs and more Specific Requirements.

3.1.4 External Interface Requirements

This provides detailed description of all inputs and outputs from the application. This requirement is organized in the following subsection.

3.1.5. Functional Requirements

The System is expected to provide its user the following features:

User login details are saved in database proper manner. System shall response in effective manner. Gives proper direction and choice to user.

3.1.6. Communicational Interface

This application uses internet connection to connect

IV. PROPOSED SYSTEM

Farmer login to the application using the username and Password He / She can view the list of machineries ordered in a particular area. They can perform the analytics and sanction the machineries based on the requirements. The server at that point reacts by sending information over to the browser. After that activity, the program executes those queries to the client. Presently, the client gets the chance to connect with the site. Obviously, these activities are executed inside a matter of seconds. Application engineering is a lot of advancements and models for the improvement of completely organized portable projects dependent on industry and merchant explicit gauges. As you build up the design of your application, you likewise consider programs that deal with remote gadgets, for example, cell phones and tablets. Mobile app architecture design usually consists of multiple layers, including: Presentation Layer - contains UI components as well as the components processing them. Business Layer - composed of workflows, business entities and components. Data layer - comprises data utilities, data access components and service agents.

This application comprises mainly of two parts:

Front End: This part is responsible for interacting or conveying among the students and faculty of the same department. Back End: This part is mainly responsible for the storage purpose. Oracle database is used for uploading or downloading data into or from back end using queries from front end respectively. Detailed overview of Front End The end is based on Java platform where farmers can book the required machinery.
can be booked for a certain period of time. Farmers have to register themselves by providing their Name, Mobile number. Upon registering successfully, each one of them will be provided with an ID which will be useful for the further process.

While registering, if a particular farmer is already registered with a mobile number, then an error message popup saying - this mobile number is already registered. Once successfully registered, farmers can login through their given ID and can choose the machine they want and can change their password also. Farmers can request the machinery, if its is not available at the centre, by filling details in the portal. They will log out at the end.

**Fig.no.1**

**Homepage**

By adding correct information to log in page they can access the homepage of our system where they get information of equipment's.

**Fig.no.2**
Log In Form

By using registration details contact and password, they can log in to our system.

Fig. no. 3

Registration form

Here we implement a system for a farmer to save their data on cloud system securely without deduplicate to get save information of user.

So, Here we created registration form for farmers. By entering their personal information like their name contacts, Email, Address, Password. They can register themselves on our system.

Fig. no. 4
V. CONCLUSION

The online administration framework for Agri-Equipment rental framework was made to guarantee the productive task and straightforward administration of a government-upheld farming hardware rental business. It reduces the manual work. It reduces the paper work, thus supporting the sustainable environment. It saves time also. Moreover, the proper documentation of whole project is also provided so that any-one can understand the project and can do the necessary changes if required. This application can be improved in many ways and can be extended to support multiple devices. The online administration framework for Agri-Equipment rental framework was made to guarantee the productive task and straightforward administration of a government-upheld farming hardware rental business. It reduces the manual work. It reduces the paper work, thus supporting the sustainable environment. It saves time. Also, moreover, the proper documentation of whole project is also provided so that any-one can understand the project and can do the necessary changes if required. This application can be improved in many ways and can be extended to support multiple devices. Following are some of the possible extensions: Analytics can be extended in such a way that State head can view, in which region which machinery is required and move to that location in prior. Inclusion of crops and fertilizers to the list. Inclusion of GPS and maps which can help in identifying the current locomotion state of the equipment.

ACKNOWLEDGEMENT

The project has been a lot of work, but we couldn’t have done it without the support and guidance from some very important people. We want to thank Mrs. Bhawana Ahire mam our project guide for all their help they provided us essential information that was needed to complete our task successfully. Thank you also goes out to our parents and friends who were there every step of the way.

VI. REFERENCES